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L3: Entry 1 of 1

File: USPT

May 26, 1992

US-PAT-NO: 5116662

DOCUMENT-IDENTIFIER: US 5116662 A

**** See image for Certificate of Correction ****

TITLE: Multi-direction stretch composite elastic material

DATE-ISSUED: May 26, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morman; Michael T.	Alpharetta	GA		

US-CL-CURRENT: 428/198; 428/152, 428/903, 428/913, 442/328

ABSTRACT:

The present invention provides a composite elastic material capable of stretching in at least two directions. The material is disclosed as having at least one elastic sheet and at least one necked material joined to the elastic sheet at least at three locations arranged in a nonlinear configuration, so that the necked web is gathered between at least two of those locations. Also disclosed is a method of producing a composite elastic material capable of stretching in at least two directions.

26 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequences](#) [Attachments](#)[BOARD](#) [Draw Desc](#) [Image](#)[Generate Collection](#)[Print](#)

Term	Documents
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5116662S	0
"5116662"[PN].USPT.	1
(5116662[PN]).USPT.	1

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Term	Documents
JP-06184897-\$	0
JP-06184897-A.DWPI.	1
JP-06184897-\$.DID..DWPI.	1
(JP-06184897-\$.DID.).DWPI.	1

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1. Document ID: EP 432763 A CA 2030291 C AU 9068056 A CA 2030291 A ZA
9009782 A US 5116662 A AU 636937 B JP 06184897 A EP 432763 B1 DE
69021519 E ES 2076284 T3 PH 27834 A JP 2919980 B2 KR 168640 B1

L2: Entry 1 of 1

File: DWPI

Jun 19, 1991

DERWENT-ACC-NO: 1991-179609

DERWENT-WEEK: 200131

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TITLE: Non-rubbery composite for diapers, tissues, etc. - comprises two-dimensional elastic sheet and polypropylene-contg. necked material bonded at nonlinear points

INVENTOR: MORMAN, M T; NORMAN, M T

PRIORITY-DATA: 1989US-0451264 (December 15, 1989)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 432763 A	June 19, 1991		000	
CA 2030291 C	May 1, 2001	E	000	B32B005/04
AU 9068056 A	June 20, 1991		000	
CA 2030291 A	June 16, 1991		000	
ZA 9009782 A	October 30, 1991		000	
US 5116662 A	May 26, 1992		015	B32B027/14
AU 636937 B	May 13, 1993		000	B32B027/12
JP 06184897 A	July 5, 1994		020	D04H001/50
EP 432763 B1	August 9, 1995	E	027	D04H001/56
DE 69021519 E	September 14, 1995		000	D04H001/56
ES 2076284 T3	November 1, 1995		000	D04H001/56
PH 27834 A	November 25, 1993		000	B32B027/14
JP 2919980 B2	July 19, 1999		019	D04H001/50
KR 168640 B1	January 15, 1999		000	B32B027/00

INT-CL (IPC): A47 K 7/00; A47 L 13/16; B29 D 0/00; B32 B 3/28; B32 B 5/04; B32 B 5/26; B32 B 7/04; B32 B 27/00; B32 B 27/12; B32 B 27/14; B32 B 31/16; C08 J 0/00; D01 G 25/00; D04 H 1/50; D04 H 1/56; D04 H 1/62; D04 H 13/00

Full	Title	Citation	Print	Review	Classification	Date	Reference	Sequences	Attachments	Claims	EMC	Draw Desc	Clip Img	Image
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Search Results - Record(s) 1 through 2 of 2 returned.☒ 1. Document ID: US 4891258 A

L1: Entry 1 of 2

File: USPT

Jan 2, 1990

US-PAT-NO: 4891258

DOCUMENT-IDENTIFIER: US 4891258 A

TITLE: Stretchable absorbent composite

DATE-ISSUED: January 2, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fahrenkrug, Anne M.	Appleton	WI		

US-CL-CURRENT: 428/138; 428/131, 428/152, 428/178, 428/184, 428/913, 442/328,
442/382, 442/385, 442/389, 604/358, 604/367, 604/373, 604/385.22

ABSTRACT:

The stretchable composite comprises a liquid-pervious layer, liquid-impervious layer, an absorbent layer, and a stretchable layer. The stretchable layer is stretch-bonded to the other layers and, upon relaxing the stretched layer, a plurality of rugosities are formed in the liquid-pervious layer, liquid-impervious layer, and absorbent layer. A method is provided for making the composite.

30 Claims, 20 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWC	Draw Desc	Image
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☒ 2. Document ID: US 4446189 A

L1: Entry 2 of 2

File: USPT

May 1, 1984

US-PAT-NO: 4446189

DOCUMENT-IDENTIFIER: US 4446189 A

TITLE: Textured nonwoven textile fabric laminate and process of making said

DATE-ISSUED: May 1, 1984

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Romanek, Gerald A.	Greenville	SC		

US-CL-CURRENT: 428/152, 156/148, 156/176, 156/183, 156/199, 156/221, 156/229, 2/270,
28/107, 28/112, 428/195, 428/198, 442/329, 442/382, 442/409

ABSTRACT:

A nonwoven textile fabric laminate comprising at least one layer of nonwoven textile fabric secured by needle punching to an elastic layer such that the nonwoven fabric layer is permanently stretched when the elastic layer is drafted to a condition within its elastic limit and the nonwoven fabric layer exhibits increased bulk when the elastic layer is allowed to relax and return to substantially its condition prior to drafting. One form of the fabric laminate includes a nonwoven textile fabric layer needle punched to each side of the elastic layer. Various methods and apparatus for producing such laminates are also disclosed.

28 Claims, 14 Drawing figures
Exemplary Claim Number: 1,22
Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWD	Draw Desc	Image
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((4891258 OR 4446189)[PN]).USPT.	2

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